PYRIBENZAMINE IN EXPERIMENTAL NONALLERGIC AND ALLERGIC DERMATITIS[1]

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I. INTRODUCTION

According to the present theories of anaphylaxis, the antigen-antibody reaction produces, by a still unknown mechanism, a cell injury. In this primary phase histamine does not seem to be involved; however, if histamine is present in the injured cell, it is released during this cell irritation. The released histamine is thus considered, according to the present theories, to be a by-product of the antigen-antibody reaction. If the organism is sensitive to histamine, the amounts liberated are high enough to induce toxic symptoms. In this case only, histamine can be spoken of as the "anaphylactic poison" and held responsible for the majority of the anaphylactic manifestations (Code (1)).

Much indirect and direct evidence has been accumulated proving that histamine plays an active role not only in certain anaphylactic manifestations (Code (2), Dragstedt (3), Rose (4)), but also in those of urticaria, hay fever, dermographia and in cold and light allergy (Rose (4), Kalk (5), Horton et al. (6)). Up to ten times the normal level has been detected *in vitro* after the contact of antigen with allergic organs (Schild (7), Farber et al. (8), Cloyd and Selle (9) and others), and *in vivo* during allergic attacks.

Contrary to the above-mentioned allergies of the atopic type, our knowledge of the role of histamine in allergic manifestations of the contact type is very limited. Systematic histamine determination in the blood of patients suffering from contact dermatitis or in the diseased skin, have not yet been published; however, the disappointing clinical results obtained in cases of contact dermatitis with various antihistaminic substances seems to justify the opinion of those who maintain that histamine is not directly involved in allergic manifestations of the epidermal type. This is quite indirect proof. However, since it is generally supposed that the antihistaminic substances, like Pyribenzamine and others, specifically counteract pathologic reactions caused by histamine, they are regarded by many investigators as reliable biologic reagents for histamine. If a certain allergic disease is ameliorated or cured by these compounds, it is believed that histamine plays a determining role in the manifestations of this allergy; and, conversely, it is believed that histamine can be ruled out as a causative factor in cases in which these compounds are inactive.

The therapeutic results obtained with antihistaminic substances, such as Pyribenzamine and others, in various allergies, have varied considerably according to the site of the allergic manifestation. With the most active compounds

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